Happenings

at the Science Advisory Board
...insuring a solid technical basis for environmental protection

Vol. E4 No. 6
August 1999

This issue consists of eighteen Courier pages.

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1. EDITORIAL

"Toto, We Aren't in Kansas Anymore!"

With this classic comment to her dog in the movie version of "The Wizard of Oz", Dorothy awoke to the reality that her surroundings had changed in fundamental and dramatic ways. She would have to operate in new modes, use new approaches, and move along new (yellow) roads through her new world. It was all very confusing, exciting, and -- in the end -- rewarding.

Similarly, as the decade draws to a close, the EPA -- and the science and Science Advisory Board that support it -- finds itself in a fundamentally new world from the one in which it operated just a few years ago.

These changes were highlighted in a number of non-SAB workshops held in June that involved some SAB M/Cs and staff. In one of them, Agency staff explored the application of the 1997 Cumulative Risk Guidance which is intended to answer questions people are actually asking, rather than simply those that scientists are comfortable answering. Specifically, when residents ask "What are the risks from living here?", their interest is in the cumulative impact of ALL environmental risks -- from dioxin emissions from all stationary and mobile sources in the area to nutrient impacts on their watershed, from microbes in drinking water and in the chicken they buy at the local market to the impacts of habitat loss in their regional

ecosystem. Frankly, current science is not well-equipped to answer such holistic questions. Therefore, it is particularly important that the scientists engage in substantive discussions with risk managers and other interested and affected parties to plan and scope out just what science can/will provide in a given situation. At the Planning and Scoping workshop, with leadership that included the SAB's **Dr. Mark Harwell** (University of Miami) and **Dr. Lauren Zeise** (Cal EPA), the group brought life to these abstract concepts by applying them to specific cases.

The information needs of risk managers was the subject of a second internal workshop in which experienced Agency risk mangers spoke frankly their information needs to an audience of information suppliers; e.g., risk assessors and scientists. SAB EC Member **Dr. Granger Morgan** (Carnegie-Mellon University) shared his thoughts on risk analysis and risk management with the participants who are struggling to better understand their customers' needs. For the moment, this goal appears to be desirable and tantalizingly beyond our grasp.

A third, outside workshop, organized by SAB consultant **Dr. John Graham** (Harvard School of Public Health) and attended by Agency and SAB staff, examined the implications of "The Precautionary Principle" for policy and science. The Principle continues to defy attempts to capture all of its aspects in a single, widely-accepted definition. At the same time, the Principle is changing the landscape for environmental decision-making in this country, just as it already has in Europe. The exact role of science in such new world -- i.e., assuring that there will be no untoward effects associated with a proposed action -- is not clear.

In short, in the not too distant future, science and the Science Advisory Board will be asked to develop and critique the technical responses to these challenges. Exactly how this will be done remains to be discovered, explored,...and enjoyed.

Whatever this new world turns out to be, it certainly won't be Kansas anymore.

Donald G. Barnes, PhD
SAB Staff Director
Kathleen Conway
DFO Environmental Engineering Committee

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2. TENTATIVE MEETING CALENDAR FOR AUGUST AND SEPTEMBER

Several of the Federal Advisory Committee Act (FACA) meetings noted below have been announced in the Federal Register (FR),together with additional background information. Readers can automatically receive e-mailed copies of FR Notices by subscribing to the SAB Listserver; see Section 6.a.2) below.

If a series of meetings is anticipated, the number of the meeting in the series is indicated in parentheses; e.g., "(#2)"

If a meeting is to be conducted via publicly accessible conference call, the data are enclosed in brackets: "[.....]"

A glossary of acronyms appears at the end of the list of September meetings.

AUGUST

There are no scheduled meetings.

SEPTEMBER

TBA	EcoRisk Report Card Chair: Dr. Terry Young, Environmental Defense Fund DFO: Ms. Stephanie Sanzone (sanzone.stephanie@epa.gov)	EPEC TBD
TBA	Various Chair: Dr. W. Randall Seeker, Energy and Environmental Research Corporation DFO: Dr. John R. Fowle III (fowle.jack@epa.gov)	RSAC TBD
[TBA	Review Meeting Chair: Dr. Joan Daisey, Lawrence Berkeley Laboratory DFO: Dr. Donald G. Barnes (barnes.don@epa.gov)	EC] Tele. TBD

Glossary of acronyms for the uninitiated

- CASAC = Clean Air Scientific Advisory Committee
- COUNCIL = Council on Clean Air Compliance Analysis
- AQMS = Air Quality Modeling Subcommittee
- HEES = Health and Ecological Effects Subcommittee
- DC = Washington, DC
- DFO = Designated Federal Officer (SAB Staff lead)
- DWC = Drinking Water Committee

EC = Executive Committee
EEAC = Environmental Economics Advisory Committee
EEC = Environmental Engineering Committee
EHC = Environmental Health Committee
EPEC = Ecological Processes and Effects Committee
IHEC = Integrated Human Exposure Committee
IRP = Integrated Risk Project
RAC = Radiation Advisory Committee
RSAC = Research Strategies Advisory Committee
RTP = Research Triangle Park, NC
SAP = Scientific Advisory Panel (FIFRA) (Not SAB affiliated)
TBA = To Be Announced
TBD = To Be Determined
[Tele] = Publicly accessible telephone conference call

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3. SAB REPORTS IN PROGRESS

a) PROJECTS SCHEDULED FOR PEER REVIEW IN SEPTEMBER AT THE EXECUTIVE COMMITTEE MEETING TELECONFERENCE (DATE TBA)

1) Review of the Economic Analysis Guidelines	EEAC
2) Advisory on Eco Soils Screening Level	EPEC
3) Commentary on the Utility of Proactive Technical Advice: The EEC Experience	EEC

b) PROJECTS SCHEDULED FOR PEER REVIEW AT A LATER EXECUTIVE COMMITTEE MEETING

1) Review of Biotic Ligant Model for Metals in Water Column	EPEC
2) Review of IRP Final Integrated Report	EC/IRP/SC
3) Review of IRP Final Overview Report	EC/IRP/SC
4) Review of IRP Risk Reduction Report	EEC/IRP
5) Review of Metals in Sediments Method	EPEC
6) Review of Use of Human Data	EC Subcomm.
7) Commentary on the Measures of Environmental Technology Performance	EEC
8) Commentary on Waste Re-Use	EEC
9) Review on Metals in Sediments Method	EPEC
10) Scientific & Technological Achievement Awards	EC Subcomm.
11) Children’s Cancer Review	EC Subcomm.

c) PROJECTS THAT HAVE RECEIVED EC APPROVAL AND AWAIT COMPLETION

1) Review of the Comparative Risk Framework	DWC
2) Review of Wet Weather Flows	EEC

d) SAB REPORTS THAT DO NOT REQUIRE EC APPROVAL

(CASAC and COUNCIL) THAT ARE ALSO UNDER DEVELOPMENT

1) Review of Airborne PM Research Strategy CASAC
2) Review of Carbon Monoxide Criteria Document CASAC
3) Prospective Section 812 Study Advisory COUNCIL
4) Prospective Section 812 Study Advisory COUNCIL/AQMS
5) Prospective Section 812 Study Advisory COUNCIL/HEES

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4. COMMITTEE ACTIVITIES IN JULY

On July 1-2, the Integrated Risk Project Peer Review Subcommittee met in Washington, DC to review the draft "Integrated Environmental Decision-making in the Twenty-First Century ". The peer review report will be posted on the SAB website when it is completed.

On July 8, the Drinking Water Intake Subcommittee held a teleconference meeting. The review panel was established as a Subcommittee of the SAB Executive Committee and panelists were selected from a number of SAB committees, including the Drinking Water Committee, the Integrated Human Exposure Committee, and the Environmental Health Committee. A number of SAB consultants were also included on the review panel. The teleconference was a planning meeting for the face-to-face review meeting that would be held on July 19-20.

On July 13-14, the Advisory Council on Clean Air Compliance Analysis ,Council, (Dr. Maureen Cropper, Chair) held a public meeting to review the Agency's draft *Prospective Study: Report to Congress*, pursuant to Section 812 of the Clean Air Act Amendments (CAAA). The Council addressed nine charge questions provided by the Agency concerning the costs and benefits of implementing the CAAA. The Council plans to complete a consensus draft response in August.

On July 13-14, **the Executive Committee(EC)** met in Washington, DC to take action on "Review of Report on Comparative Risk Framework". Much of the rest of the meeting focused on progress made to implement the recommendations made by the Executive Committee during its November 1997 Strategic Retreat, including a discussion about how the Board might effectively engage social scientists, a discussion about how to fit science into the Agency's new ways of doing business, and a discussion about the Agency's Science Strategic Plan.

On July 19-20, the Drinking Water Intake Subcommittee, a review panel, held a public meeting. During this review, the Office of Water representatives presented the results of their report entitled, *Per Capita Water Consumption in the United States*.

This report provides ingestion estimates for direct and indirectly consumed water for the general U.S. population and a number of subpopulations (e.g., by age, gender, source, geographic region, ethnicity, etc). The Subcommittee developed a series of consensus recommendations that will be the core of a document now being prepared for delivery to the Executive Committee for review at its next meeting.

On July 21-22, the Scientific and Technological Achievement Awards (STAA) Subcommittee met in closed session to review 94 nominated scientific papers from Agency scientists. This program is administered by ORD and is open to scientists from the entire Agency, including those who are not from ORD. EPA authors of selected papers areeligible to split cash awards totally as much as $5,000. The Subcommittee will recommend approximately one third of the nominations for an award (Level I, II, III or Honorable Mention). The results of the competition will be announced by ORD.

On July 27, the Environmental Economics Advisory Committee, EEAC, held a teleconference meeting. The Committee agreed on the major comments that would be made on the Agency's draft Guidelines for Preparing Economic Analyses. The EEAC complimented Dr. McGartland, his staff, and other Agency cooperators on the quality and completeness of the guidelines and the substantial effort expended by the Agency in bringing the guidelines revision process to a positive conclusion. The EEAC members were especially pleased by the interaction with Agency staff over the series of four meetings during which the guidelines were reviewed. The process involved earlier, more frequent, and more intense interactions than would be the case in an end-of-the-pipe peer review. Such a process was contemplated by the Agency when it reconsidered the Committee's role and makeup in 1997. The members noted their desire to explore the process with the SAB Executive Committee when their report to the Administrator is completed in early September.

On July 27-28,the Cancer Risk Assessment Guidelines Review Subcommittee (CRAGRS) of the Executive Committee met in Arlington, VA to review the draft revisions to the EPA's Cancer Risk Assessment Guidelines (GL). This meeting was a follow-on to the Board's earlier review of the general GLs earlier this year (EPA-SAB-EC-99-014). The current revisions were designed to address specifically issues related to risk assessment for children. The review focused on the soundness of the proposed GL's default science policy positions for assessing risk in the absence of agent-specific data.; default approaches for converting a human equivalent dose for adults into a human equivalent dose for children for oral and inhalation exposures; and the adjustment of slope factors to address lifetime and partial lifetime exposure scenarios reflecting data on early-life sensitivity. The Subcommittee also reviewed EPA's draft

responses to ten questions on cancer risk assessment for children posed by the Children's Health Protection Advisory Committee.

On July 29, the CASAC Technical Subcommittee for Fine Particle Monitoring held a teleconference to receive updates from the Agency on recent developments in the chemical speciation program, the March 1999 Supersites Request for Assistance (RFA) and the Atlanta and Fresno supersite plans. A Consultation was prepared as a result of this meeting. These discussions are an extension of the Subcommittee's meeting in November 1998 and are a precursor to the next formal meeting of the Subcommittee which is planned for late 1999. Copies of relevant briefing materials are available on the web at: http://www.epa.gov/ttn/amtic/

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5. ABSTRACTS OF NEW REPORTS

FULL REPORTS

a. Review of the EPA's Proposed Environmental Endocrine Disruptor Screening Program
EPA-SAB-EC-99-013

The 1996 passage of the Food Quality Protection Act and amendments to the Safe Drinking Water Act (SDWA) required EPA to develop a screening and testing strategy for environmental endocrine disruptors. The EPA subsequently asked the Science Advisory Board (SAB) and the FIFRA Scientific Advisory Panel (SAP) to form a Joint Subcommittee to review a set of scientific issues concerning the development of the Agency's endocrine disruptor screening and testing program. The review Subcommittee met on March 30-April 1, 1999, in Arlington VA.

The Charge was broad and complex, posing 18 major questions within four broad areas: a) scope of the program; b) priority-setting; c) the high throughput pre-screening approach; and d) the proposed endocrine disruptor screening program.

The Subcommittee recommended: a mid-course evaluation or optimization of the screening; an initial focus on the methods development effort; the inclusion of more and better-detailed case studies; the use of sub-populations as a criterion within the existing compartments already identified, but not as a separate stand-alone compartment; making users aware of validation problems in systems like IRIS; the inclusion of both dose *and* timing of exposure, particularly with respect to developmental or reproductive events; minimizing the number of animals needed for testing; inclusion of an introductory statement; support the decisions about which assays are selected with data, and which protocols are adopted

for those assays, should be with data; be aware ofthe imperfect nature of *any* future agreed strategy; define and agree on some negative control agents for environmental disruption assay validation; do not expand the set of agents until the Agency develops or adopts validated systems and can provide clear decision criteria.

Although the review identified several areas of concern, we wish to congratulate the Agency for dealing effectively with an extraordinarily complex set of issues, many of which are on the cutting edge of the relevant science.

b. An SAB Report: Review of the Index of Watershed Indicators EPA-SAB-EPEC-99-014

On October 13-15, 1998, the Ecological Processes and Effects Committee of the Science Advisory Board met to review and comment on the Index of Watershed Indicators (IWI) developed by the Office of Water. The stated purpose of the IWI is to provide available data on aquatic resources in a Geographic Information System (GIS) format for assessing the condition and vulnerability of watersheds. Phase I of the IWI, released in 1997, consisted of information on 15 indicators presented individually and in aggregate. In a previous review (EPA-SAB-EPEC-ADV-97-003), the Committee supported in concept Agency plans to include 6 additional indicators (i.e., biological integrity, habitat, groundwater, coastal condition indicator, air deposition, and downstream effects) and further recommended that land use change and other indicators of terrestrial condition be considered. The Committee also recommended that the algorithm used to calculate composite scores for watershed condition and vulnerability be examined prior to the Agency’s release of a revised version of the IWI. The primary focus of this second EPEC review was to follow up on the previous Committee recommendations.

The Committee applauds early Agency efforts on the IWI, but recommends strengthening the scientific basis of IWI. The Committee recommends that the Agency: develop a strategic plan to articulate IWI's goals and objectives, identify target audiences, and identify data gaps; develop a conceptual model for the IWI that can be used to guide the selection of additional data layers and refinements to the integrating algorithm; add more indicators of biological and ecosystem effects to the IWI; develop terrestrial indicators using the MRLC data set; and evaluate each indicator to demonstrate that changes in the indicator correspond to meaningful changes in environmental quality. The Committee also urges the Agency to revisit the current integrated index, which falls short of the goal of characterizing watershed condition and vulnerability. As part of this exercise, the Agency should undertake the appropriate analyses to assign differential weights to the individual indicators based on their relative importance as predictors of watershed integrity.

c. Review of the EPA's Draft Revised Cancer Risk Assessment Guidelines
EPA-SAB-EC-99-015

A Subcommittee of the Science Advisory Board reviewed EPA's revised Cancer Risk Assessment Guidelines (GL) on January 20-21, 1999, addressing the proposed narrative summaries and hazard descriptors; the use of Mode of Action (MOA) information; the use of dose response analysis to calculate the point of departure; and margin of exposure analysis, including human intraspecies variability.

The Subcommittee recommended that the GLs should be released as soon as possible and found the GLs were a significant improvement. Other general findings/recommendations included:

a) State that "...the primary goal of EPA actions is public health protection..."
b) Re-consider the loss of flexibility for risk assessors.
c) Discuss sensitive subpopulations for all agents to which the public is exposed.
d) Discuss the need consider background and concurrent exposures.
e) Provide guidance on the use of biologically-based models

More specific findings are:

a) The narrative descriptor "known to be carcinogenic to humans" or "known human carcinogen" should be retained. The Subcommittee did not agree on whether to restrict use of this category to scenarios in which there was conclusive epidemiological data.
b) A common format for the hazard narrative is essential.
c) Continue efforts to achieve compatibility with international organizations.
d) Specific criteria for judging the adequacy of data on a mode of action are needed .
e) The GL remain vague about what data are required to reject default assumptions.
f) The GLs should require testing of the hypothesis before rejecting the default assumption.
g) There should be guidance on whether mode of action data support linear or non-linear extrapolation of risk
h) The Subcommittee is concerned about the linkage between selected risk levels and the incorporation of adjustment and uncertainty factors.
i) Clarify the relationship of the LED_{10}, ED_{10} and the NOAEL.

ADVISORIES

a. Advisory on Proposed EPA Methodology for Assessing Risks from Indoor Radon Based on BEIR VI: White Paper EPA-SAB-RAC-ADV-99-010

On March 24-26, 1999, the Science Advisory Board's Radiation Advisory Committee conducted an advisory for the Office of Radiation and Indoor Air (ORIA) on a White Paper concerning proposed methodologies for assessing risks from indoor radon, which was based on the National Academy of Sciences/National Research Council Biological Effects of Ionizing Radiation (BEIR) VI report.

The Committee found that ORIA has proposed a reasonable method for extending the findings from BEIR VI to form an Agency radon risk model, and made a thorough effort in considering most aspects of this complex task. The comments offered are intended to help ORIA improve a good product, sharpen its approach, and communicate its recommendations more clearly.

A model that would provide risk estimates between those of the concentration and duration models was recommended by the Committee, although an exact method was not proposed. This recommendation is supported by other models discussed in BEIR VI, which yield intermediate risk estimates.

The Committee generally supports modifications of the BEIR VI models intended to improve the usefulness of the EPA radon model, including expanded treatment of smoking prevalence by age and continued investigation on distinguishing the risks of current and former smokers. While ORIA identified and quantified numerous important uncertainties in the radon risk estimates, further identification, discussion, and quantification is desirable.

The final radon risk model should be made usable for assessments that require specific mixes of sex, age, and smoking status. Further, easily used tools should be provided so that the model can be used outside of ORIA to estimate radon risks for a variety of situations.

b. Advisory on the "White Paper on the Nature and Scope of Issues on Adoption of Model use Acceptability Criteria" EPA SAB-EC-ADV-99-011

The general approach contained in the "White Paper on the Nature and Scope of Issues on adoption of Model use Acceptability Criteria" and the specific points raised in it are very constructive. The "White Paper" can provide the basis for a more effective and consistent process of model development and application across the Agency. However, there is a lack of a common

nomenclature surrounding model application and usage. The models acceptability "White Paper" could help by defining key terms, and then using these definitions consistently throughout the document as well as in its future work. In addition, the "White Paper" needs a broader view of what needs to be included for effective model development and the associated steps required for implementation. EPA can benefit greatly from targeted stakeholder participation to obtain insight into the range of applications, available data and constraints that exist in different locales throughout the U.S. EPA also needs to ensure that the public, the regulatory community and local decision-makers appreciate the role that value judgments play in the selection of a model and the way a model is used. EPA Program Offices should consider developing educational materials to assist stakeholders in the selection, understanding and use of models to address their program's mandates. Tracking model selection and model use by state and local decision-makers will provide a valuable data set to EPA regarding the efficacy of its programs. The Subcommittee supports the establishment of the Committee for Regulatory Environmental Modeling (CREM) and a model clearinghouse by the CREM. This will allow model users to document the model evaluation process to help others understand. As an additional benefit, it will allow those outside the EPA to access this information and it will provide them with an opportunity to provide feedback.

c. The Clean Air Act Amendments (CAAA) Section 812 Prospective Study of Costs and Benefits (1999): Advisory by the Health and Ecological Effects Subcommittee on Initial Assessments EPA-SAB-COUNCIL-ADV-99-012

This HEES Advisory for the Section 812 Prospective Study of the Costs and Benefits of the Clean Air Act Amendments (CAAAs) of 1990 provides comment on the draft health and ecological assessments provided for review and the degree of uncertainty or certainty associations with the individual tasks necessary to complete the current Study. The recommendations are designed to strengthen the health and ecological assessments that will provide the basis for the cost and benefits analysis in this year's Prospective Study. The Council will review the draft Study at its meeting on July 13-14, 1999, pursuant to the requirements of the CAAA.

This Advisory also identifies gaps in information, data, and methods that need to be filled to strengthen future Prospective Studies, which the CAAA require to be submitted to Congress every two years. The study will be the first attempt at a prospective analysis. It is expected that the comprehensiveness of the analysis will increase over time, especially as further research becomes available for use in model simulations of emissions, exposure, health and ecological effects, and costs and benefits.

COMMENTARIES

a. Environmental Impacts of Natural Hazards: The Need for Agency Action
EPA-SAB-EEC-99-COM-003

The Environmental Engineering Committee of the EPA Science Advisory Board (SAB) recommends that EPA develop programs to deal with environmental impacts of natural hazards and their effects, including human health. The Committee first raised this issue in its 1995 report *Future Issues in Environmental Engineering* (SAB, 1995).

The Agency can reasonably expect that natural hazards will continue to occur, that there will be impacts on the environment and human health, and that it is possible, in general, to both anticipate the ramifications of extreme events to prevent or reduce them. The Committee therefore recommends that Agency expand its activities to reduce environmental impacts of natural hazards. A range of options is available to the Agency including research, communication, education, guidance, permit requirements, etc. EPA should continue collaborating with other government programs.

Because of EPA's expertise and compatibility with existing elements of EPA's research, the Committee recommends that EPA lead research on the assessment and mitigation of environmental impacts arising from natural hazards. The Agency might find it useful to develop hazard zoning schemes in which environmental sensitivity is a key parameter, for example, or develop revised design methodologies to cover the reliability of structures in hazard-prone locations. Such methodologies could be connected and extended to ecosystem and human health risk assessments through estimates of probable contaminant release quantities and concentrations and their effects.

b. Commentary on the Need for Research on Risk Reduction Options for Particulate Matter 2.5
EPA-SAB-EEC-99-COM-004

In this commentary, the Environmental Engineering Committee of the Science Advisory Board recommends that research on options for reducing risks from Particulate Matter 2.5 ($PM_{2.5}$) be conducted in parallel with research on the relationship of $PM_{2.5}$ to health effects. The time needed to test and evaluate a risk reduction option depends upon the nature of the option, the opportunities for testing it, and the quality & quantity of the data needed for decision-making. For some options, the time between the decision to evaluate and the availability of the results may be measured in years. Therefore, research on a limited number of promising options will improve the scientific basis for regulatory decision making and associated technical support programs to address both primary and secondary particulate matter standards.

The Agency has initiated source control research and the Committee encourages research on an expanded range of options.

Research planning should consider a number of hypotheses about the sources of risk and various options for intervention (such as control technology, pollution prevention, and market incentives). The following research themes are examples of those that could be considered:

a) Approaches that enhance and explore technologies which capture particles and which can capture both primary particles and secondary particulate matter precursors.

b) Development of source-specific "chemical fingerprints" to better understand contributions of specific sources to atmospheric concentrations of $PM_{2.5}$.

c) The linkage between source processes (e.g., combustion conditions, secondary $PM_{2.5}$ formation) and composition of $PM_{2.5}$

CONSULTATIONS

There are no abstracts for consultations.

a. Notification of a Consultation on the Diesel Health Assessment
EPA-SAB-CASAC-CON-99-005

b. Notification of a Consultation on the Estimation of Carbon Monoxide Exposures and Associated Carboxyhemoglobin Levels in Denver Residents using pNEM/CO (Ver. 2.0)
EPA-SAB-CASAC-CON-99-006

c. Notification of a Consultation on the PM2.5 Chemical Speciation Network and the Supersites Program Plan
EPA-SAB-CASAC-CON-99-007

d. Notification of Consultation on the Agency's Science Strategy
EPA-SAB-EC-CON-99-008

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6. UPDATES

a) Computer News:
(1) SAB Website within the EPA Home Page. You are invited to visit the SAB Website at URL:
http://www.epa.gov/sab
The site offers such features as
(a) Full-text reports for FY1994-FY1999
(b) Background information about the structure, function, and membership of the SAB
(c) A rolling two-month calendar of SAB meetings
(d) The most current issue of HAPPENINGS
(e) Draft/final agendas of upcoming meetings and

draft/final minutes of past meetings.

(f) And much, much...well, maybe a little bit more!

(2) SAB Listserver - By subscribing to the free SAB Listserver, you will automatically receive copies of all Federal Register notices announcing SAB meetings, together with brief descriptions of the topics to be covered at the meetings. These notices will be e-mailed to you within 24-hours of their publication in the Federal Register.

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b) Obtaining copies of SAB reports

(1) SAB reports are available for distribution by contacting Ms. Nicole Hinds at
Phone: (202) 260-2460 (after August 20 (202) 564-4541)
Email: hinds.nicole@epa.gov
or by faxing your request to (202) 260-1889. After August 20 please fax your requests to (202) 501-0256.

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7. THE BOARD'S BIO

This month we'd like to introduce you to Dr. C. H. (Herb) Ward, a consultant to the SAB who chairs the Scientific and Technological Achievement Awards (STAA) Subcommittee. Dr. Ward's wide range of experience, from engineering to evolution, and his calm, friendly manner make him the ideal chair for the STAA review. STAA is quite different from most reviews conducted by the Science Advisory Board in that it is an Agency-wide competition to promote and recognize scientific and technological achievements by EPA employees. Another goal is to foster a greater exposure of EPA research to the public. Feedback to the SAB shows that STAA awards really make a difference to EPA scientists. The winners are proud of their "bragging rights". Each year, the Subcommittee reviews approximately 100 nominations submitted by Agency scientists, recommending about a third for cash awards and honorable mention.

As a member of the Environmental Engineering Committee (EEC), from 1987 to 1994, Herb chaired several subcommittees that evaluated toxics treatability to prevent environmental contamination at waste sites, bioremediation of toxics already in waste sites, and the leachability of pollutants from wastes into various environmental media. Under his guidance the EEC drafted a resolution on leachability phenomena. He also led the MMSoils review to look at leachate migration through landfills to support the Regulatory Impact Analysis for the RCRA Corrective Action Rule.

When he is not whipping STAA Subcommittee members into shape as they wrestle with six score and more papers that cover eleven areas of science and technology, Dr. Ward is the Foyt Family Chair of Engineering in the George R. Brown School of Engineering at Rice University. He is also Professor of Environmental Science and Engineering and Ecology and Evolutionary Biology. Dr. Ward has undergraduate (B.S.) and graduate (M.S. and Ph.D.) degrees from New Mexico State University and Cornell University, respectively. He also earned the M.P.H. in environmental health from the University of Texas.

Following 22 years as Chair of the Department of Environmental Science & Engineering at Rice University, Dr. Ward is now Director of the Energy and Environmental Systems Institute (EESI), a university-wide program designed to mobilize industry, government, and academia to focus on problems related to energy production and environmental protection.

Dr. Ward is also Director of the Department of Defense Advanced Applied Technology Demonstration Facility (AATDF), a distinguished consortium of university-based environmental research centers supported by consulting environmental engineering firms to guide selection, development, demonstration, and commercialization of advanced applied environmental restoration technologies for the DOD. For the past 18 years he has directed the activities of the National Center for Ground Water Research (NCGWR), a consortium of universities charged with conducting long-range exploratory research to help anticipate and solve the nation's emerging groundwater problems. He is also Co-Director of the EPA-sponsored Hazardous Substances Research Center/South & Southwest (HSRC/S&SW), whose research focus is on contaminated sediments and dredged materials.

Dr. Ward has served as President of both the American Institute of Biological Sciences and the Society for Industrial Microbiology. He is the founding and current Editor-in-Chief of the international journal *Environmental Toxicology and Chemistry*.

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8. STAFF NEWS

The SAB Staff is relocating to the Ariel Rios Building in downtown Washington, DC. The move will take place on August 19-20, 1999. Although we are moving to a new location, you will still work with the same wonderful staff. Effective August 23, the main SAB phone number will change to (202) 564-4533 and the mail code will change to 1400A. The official EPA/SAB mailing address for all postal mail will remain:

USEPA
Science Advisory Board
401 M Street, SW
Mail Code 1400A

Washington, DC 20460.

Following is a list of new phone and fax numbers for SAB staff.

Director's Office

Donald G. Barnes, Staff Director	564-4533
John R. Fowle III, Deputy Staff Director	564-4547
Betty Fortune	564-4534
Priscilla Tillery-Gadson	564-4543

Fax Number: 501-0323

Committee Evaluation and Support Staff (CESS)

Patricia Thomas, Team Leader	564-4548
Nicole Hinds	564-4541
Carolyn Osborne	564-4554
Vickie Richardson	564-4553

Fax Number: 501-0256

Committee Operations Support Staff (COS)

A. Robert Flaak, Team Leader	564-4546
Dorothy Clark	564-4537
Kathleen Conway	564-4559
Wanda Fields	564-4539
Jason Hotten	564-4582
Jack Kooyoomjian	564-4557
Karen Martin	564-4563
Thomas Miller	564-4558
Angela Nugent	564-4562
Diana Pozun	564-4544
Samuel Rondberg	564-4564
Stephanie Sanzone	564-4561
Mary Winston	564-4538

Fax Number: 501-0582

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9. BON MOT

A Tip on Surviving E-commerce:

What not to do....

While shopping at a site on the Internet, a cyber-challenged patron was prompted to enter his credit card number. He dutifully inserted his credit card into the slot of his floppy drive, which was the closest thing he could see that looked like the slot on his bank's ATM machine.

✯*A Special Note to Our Newsletter Subscribers*✯

In an effort to improve our services to our subscribers, we are updating our mail list. If you are presently receiving the newsletter by postal mail and wish to receive it via e-mail, wish to be removed from the mailing list, or need to update your information, please contact Vickie Richardson at (202) 260-5381 (after August 23, (202) 564-4553) or by email, richardson.vickie@epa.gov. Keep in mind that Happenings can be viewed on our website, http://www.epa.gov/sab.

For our recipients who receive the newsletter by mail, if we do not hear from you by August 31, 1999, you will be removed from the mail list.

Thank you for your cooperation,
Vickie Richardson